

Listing of Claims

The following listing of claims will replace all prior versions, and listings, of claims in the subject application:

1. (currently amended) An electronic mail terminal device that transmits and receives information through electronic mail, comprising:

19/ a communication unit ~~that is~~ connected to a network and performing ~~performs~~ electronic mail data exchange via the network; and

a power-saving control unit configured to set ~~that sets~~ the communication unit and said device into a power-saving mode when said device detects that a first power-saving ~~timing~~ condition is satisfied, and the power-saving control unit being configured to cancel ~~cancels~~ the power-saving mode when said device detects that a second power-saving ~~timing~~ condition is satisfied.

2. (original) The electronic mail terminal device as claimed in claim 1, wherein:

the communication unit is a local area network communication unit that is connected to a local area network and performs electronic data exchange via the local area network;

the first power-saving timing condition is that a stand-by state lasts longer than a predetermined period of time; and

the second power-saving timing condition is that an event occurs.

3. (original) The electronic mail terminal device as claimed in claim 2, wherein

the power-saving control unit cancels the power-saving mode at predetermined mail fetching intervals so as to fetch electronic mail

addressed to said device through the local area network communication unit.

4. (original) The electronic mail terminal device as claimed in claim 3, wherein

the power-saving control unit cancels the power-saving mode of the local area network communication unit at the predetermined mail fetching intervals so as to fetch electronic mail addressed to said device through the local area network communication unit,

where electronic mail has been fetched, the power-saving control unit canceling the power-saving mode of said device and outputting electronic mail information to said device through the local area network communication unit, and

where no electronic mail has been fetched, the power-saving control unit not canceling the power-saving mode of said device, and setting the local area network communication unit back into the power-saving mode after a stand-by state lasts longer than the predetermined period of time.

5. (original) The electronic mail terminal device as claimed in claim 3, wherein the mail fetching intervals can be set at will.

6. (original) The electronic mail terminal device as claimed in claim 3, wherein the mail fetching intervals have a different value set in each time zone.

7. (original) The electronic mail terminal device as claimed in claim 1, wherein:

the communication unit is a dial-up communication unit that makes a dial-up access to an Internet service provide via a public network, and performs electronic mail data exchange via the Internet;

the first power-saving timing condition is that a stand-by state lasts longer than a predetermined period of time; and

the second power-saving timing condition is that an event occurs.

8. (original) The electronic mail terminal device as claimed in claim 7, wherein

the power-saving control unit cancels the power-saving mode at predetermined mail fetching intervals so as to fetch electronic mail addressed to said device through the dial-up communication unit.

9. (original) The electronic mail terminal device as claimed in claim 8, wherein

the power-saving control unit cancels the power-saving mode of the dial-up communication unit at the predetermined mail fetching intervals so as to fetch electronic mail addressed to said device,


where electronic mail has been fetched, the power-saving control unit canceling the power-saving mode of said device and outputting electronic mail information to said device through the dial-up communication unit, and

where no electronic mail has been fetched, the power-saving control unit not canceling the power-saving mode of said device and then setting the dial-up communication unit back into the power-saving mode after a stand-by state lasts longer than the predetermined period of time.

10. (original) The electronic mail terminal device as claimed in claim 8, wherein the mail fetching intervals can be set at will.

11. (original) The electronic mail terminal device as claimed in claim 8, wherein the mail fetching intervals have a different value set in each time zone.

12. (currently amended) A method of controlling an electronic mail terminal device that transmits and receives information through electronic mail, said method comprising the steps of:

 ~~putting~~ setting said electronic mail terminal device and a communication unit of said electronic mail terminal device, which is connected to a network and performs electronic mail data exchange via the network, into a power-saving mode, when said device detects that a first power-saving timing condition is satisfied; and

canceling the power-saving mode when said device detects that a second power-saving timing condition is satisfied.

13. (original) The method as claimed in claim 12, wherein:
the power-saving mode setting step includes the step of setting said device and a local area network communication unit, which is connected to a local area network and performs electronic mail data exchange via the local area network, into the power-saving mode, when a stand-by state lasts longer than a predetermined period of time; and
the canceling step includes the step of canceling the power-saving mode when an event occurs.

14. (original) The method as claimed in claim 13, wherein

the canceling step includes the step of canceling the power-saving mode at predetermined mail fetching intervals so as to fetch electronic mail addressed to said device through the local area network communication unit.

15. (original) The method as claimed in claim 14, wherein

the canceling step includes the step of canceling the power-saving mode of the local area network communication unit at the predetermined mail fetching intervals so as to fetch electronic mail addressed to said device through the local area network communication unit,

said method further comprising the steps of:

where electronic mail has been fetched, outputting electronic mail information to said device through the local area network communication unit after canceling the power-saving mode of said device; and

where no electronic mail has been fetched, setting the local area network communication unit back into the power-saving mode when a stand-by state lasts longer than the predetermined period of time, not canceling the power-saving mode of said device.

16. (original) The method as claimed in claim 14, wherein the canceling step includes the step of setting the mail fetching intervals at will.

17. (original) The method as claimed in claim 14, wherein the canceling step includes the step of setting a different value in each time zone for the mail fetching intervals.

18. (original) The method as claimed in claim 12, wherein:

the power-saving mode setting step includes the step of setting said device and a dial-up communication unit, which makes an dial-up access to an Internet service provider via a public network and performs electronic mail data exchange via the Internet, into a power-saving mode, when a stand-by state lasts longer than a predetermined period of time; and

the canceling step includes the step of canceling the power-saving mode when an event occurs.

19. (original) The method as claimed in claim 18, wherein

the canceling step includes the step of canceling the power-saving mode at predetermined mail fetching intervals so as to fetch electronic mail addressed to said device through the dial-up communication unit.

20. (original) The method as claimed in claim 19, wherein

the canceling step includes the step of

canceling the power-saving mode of the dial-up communication unit at the predetermined mail fetching intervals so as to fetch electronic mail addressed to said device,

said method further comprising the steps of:

where electronic mail has been fetched, outputting electronic mail information to said device through the dial-up communication unit after canceling the power-saving mode of said device; and

where no electronic mail has been fetched, setting the dial-up communication unit back into the power-saving mode when a stand-by

state lasts longer than the predetermined period of time, not canceling the power-saving mode of said device.

21. (original) The method as claimed in claim 19, wherein the canceling step includes the step of setting the mail fetching intervals at will.

22. (original) The method as claimed in claim 19, wherein the canceling step includes the step of setting a different value in each time zone for the mail fetching intervals.

23. (original) The electronic mail terminal device as claimed in claim 3, wherein:

the power-saving control unit cancels the power-saving mode of the local area network communication unit at the predetermined mail fetching intervals so as to fetch electronic mail addressed to said device through the local area network communication unit; and

where no electronic mail has been fetched, the power-saving control unit prolongs the mail fetching intervals by a prescribed arithmetic operation.

24. (original) The electronic mail terminal device as claimed in claim 23, wherein:

where electronic mail has been fetched, the power-saving control unit resets the mail fetching intervals to the original predetermined mail fetching intervals.

25. (original) The electronic mail terminal device as claimed in

claim 24, wherein:

where no electronic mail has been fetched, the power-saving control unit prolongs the mail fetching intervals by a prescribed arithmetic operation, not canceling the power-saving mode of said device, and sets the local area network communication unit back into the power-saving mode when a stand-by state lasts longer than the predetermined period of time, and

where electronic mail has been fetched, the power-saving control unit cancels the power-saving mode of said device, outputs electronic mail information to said device through the local area network communication unit, and then resets the mail fetching intervals to the original predetermined mail fetching intervals.

26. (original) The electronic mail terminal device as claimed in claim 8, wherein:

the power-saving control unit cancels the power-saving mode of the dial-up communication unit at the predetermined mail fetching intervals so as to fetch electronic mail addressed to said device through the dial-up communication unit;

where no electronic mail has been fetched, the power-saving control unit prolongs the mail fetching intervals by a prescribed arithmetic operation; and

where electronic mail has been fetched, the power-saving control unit resets the mail fetching intervals to the original predetermined mail fetching intervals.

27. (original) The electronic mail terminal device as claimed in claim 26, wherein:

where no electronic mail has been fetched, the power-saving control unit prolongs the mail fetching intervals by a prescribed arithmetic operation, not canceling the power-saving mode of said device, and sets the dial-up communication unit back into the power-saving mode when a stand-by state lasts longer than the predetermined period of time; and

where electronic mail has been fetched, the power-saving control unit cancels the power-saving mode of said device, outputs electronic mail information to said device through the dial-up communication unit, and then resets the mail fetching intervals to the original predetermined mail fetching intervals.

28. (original) The electronic mail terminal device as claimed in claim 23, wherein:

where no electronic mail has been fetched, the power-saving control unit prolongs the mail fetching intervals by the prescribed arithmetic operation, and resets the mail fetching intervals to the original predetermined mail fetching intervals at a predetermined time.

29. (original) The electronic mail terminal device as claimed in claim 28, wherein:

where no electronic mail has been fetched, the power-saving control unit prolongs the mail fetching intervals by the prescribed arithmetic operation, not canceling the power-saving mode of said device, and then sets the local area network communication unit back into the power-saving mode when a stand-by state lasts longer than the predetermined period of time;

where electronic mail has been fetched, the power-saving control

unit cancels the power-saving mode of said device, and outputs electronic mail information to said device through the local area network communication unit; and

at the predetermined time, the power-saving control unit resets the mail fetching intervals to the original predetermined mail fetching intervals.

30. (original) The electronic mail terminal device as claimed in claim 26, wherein:

where no electronic mail has been fetched, the power-saving control unit prolongs the mail fetching intervals by the prescribed arithmetic operation, and resets the mail fetching intervals to the original predetermined mail fetching intervals at a predetermined time.

31. (original) The electronic mail terminal device as claimed in claim 30, wherein:

where no electronic mail has been fetched, the power-saving control unit prolongs the mail fetching intervals by the prescribed arithmetic operation, not canceling the power-saving mode of said device, and sets the dial-up communication unit back into the power-saving mode when a stand-by state lasts longer than the predetermined period of time;

where electronic mail has been fetched, the power-saving control unit cancels the power-saving mode of said device, and outputs electronic mail information to said device through the dial-up communication unit; and

at the predetermined time, the power-saving control unit resets the mail fetching intervals to the original predetermined mail fetching

intervals.

32. (original) The electronic mail terminal device as claimed in claim 24, further comprising a semiconductor non-volatile memory that stores the mail fetching intervals.

33. (original) The electronic mail terminal device as claimed in claim 24, wherein the arithmetic operation is selected from a plurality of prescribed arithmetic operations by a user.

34. (original) The electronic mail terminal device as claimed in claim 26, further comprising a semiconductor non-volatile memory that stores the mail fetching intervals.

35. (original) The electronic mail terminal device as claimed in claim 26, wherein the arithmetic operation is selected from a plurality of prescribed arithmetic operations by a user.

36. (original) The electronic mail terminal device as claimed in claim 28, further comprising a semiconductor non-volatile memory that stores the mail fetching intervals.

37. (original) The electronic mail terminal device as claimed in claim 28, wherein the arithmetic operation is selected from a plurality of prescribed arithmetic operations by a user.

38. (original) The electronic mail terminal device as claimed in claim 30, further comprising a semiconductor non-volatile memory

that stores the mail fetching intervals.

39. (original) The electronic mail terminal device as claimed in claim 30, wherein the arithmetic operation is selected from a plurality of prescribed arithmetic operations by a user.

40. (original) The method as claimed in claim 14, wherein the canceling step includes the step of canceling the power-saving mode of the local area network communication unit at the predetermined mail fetching intervals so as to fetch electronic mail addressed to said device through the local area network communication unit,

said method further comprising the step of, where no electronic mail has been fetched, prolonging the mail fetching intervals by a prescribed arithmetic operation.

41. (original) The method as claimed in claim 40, further comprising the step of,

where electronic mail has been fetched, resetting the prolonged mail fetching intervals to the original predetermined mail fetching intervals.

42. (original) The method as claimed in claim 14, wherein the canceling step includes the step of canceling the power-saving mode of the local area network communication unit at the predetermined mail fetching intervals so as to fetch electronic mail addressed to said device through the local area network communication unit,

said method further comprising the steps of:

where no electronic mail has been fetched, prolonging the mail fetching intervals by the prescribed arithmetic operation, not canceling the power-saving mode of said device, and then setting the local area network communication unit back into the power-saving mode when a stand-by state lasts longer than the predetermined period of time; and

where electronic mail has been fetched, canceling the power-saving mode of said device, outputting electronic mail information to said device through the local area network communication unit, and then resetting the mail fetching intervals to the original predetermined mail fetching intervals.

43. (original) The method as claimed in claim 19, wherein the canceling step includes the step of canceling the power-saving mode of the dial-up communication unit at the mail fetching intervals so as to fetch electronic mail addressed to said device through the dial-up communication unit,

said method further comprising the steps of:

where no electronic mail has been fetched, prolonging the mail fetching intervals by a prescribed arithmetic operation; and

where electronic mail has been fetched, resetting the prolonged mail fetching intervals to the original predetermined mail fetching intervals.

44. (original) The method as claimed in claim 19, wherein the canceling step includes the step of canceling the power-saving mode of the dial-up communication unit at the mail fetching intervals so as to fetch electronic mail addressed to said device through the

dial-up communication unit,

said method further comprising the steps of:

where no electronic mail has been fetched, prolonging the mail fetching intervals by a prescribed arithmetic operation, not canceling the power-saving mode of said device, and then setting the dial-up communication unit back into the power-saving mode when a stand-by state lasts longer than the predetermined period of time; and

where electronic mail has been fetched, canceling the power-saving mode of said device, outputting electronic mail information to said device through the dial-up communication unit, and then resetting the prolonged mail fetching intervals to the original predetermined mail fetching intervals.

45. (original) The method as claimed in claim 14, wherein

the canceling step includes the step of canceling the power-saving mode of the local area network communication unit at the predetermined mail fetching intervals so as to fetch electronic mail addressed to said device through the local area network communication unit,

said method further comprising the steps of:

where no electronic mail has been fetched, prolonging the mail fetching intervals by a prescribed arithmetic operation; and

at a predetermined time, resetting the prolonged mail fetching intervals to the original predetermined mail fetching intervals.

46. (original) The method as claimed in 14, wherein

the canceling step includes the step of canceling the power-saving mode of the local area network communication unit at the

predetermined mail fetching intervals so as to fetch electronic mail addressed to said device through the local area network communication unit,

said method further comprising the steps of:

where no electronic mail has been fetched, prolonging the mail fetching intervals by a prescribed arithmetic operation, not canceling the power-saving mode of said device, and then setting the local area network communication unit back into the power-saving mode when a stand-by state lasts longer than the predetermined period of time;

where electronic mail has been fetched, canceling the power-saving mode of said device, and outputting electronic mail information to said device; and

at a predetermined time, resetting the mail fetching intervals to the original predetermined mail fetching intervals.

47. (original) The method as claimed in 19, wherein the canceling step includes the step of canceling the power-saving mode of the dial-up communication unit at the mail fetching intervals so as to fetch electronic mail addressed to said device through the dial-up communication unit,

said method further comprising the steps of:

where no electronic mail has been fetched, prolonging the mail fetching intervals by a prescribed arithmetic operation; and

at a predetermined time, resetting the prolonged mail fetching intervals to the original predetermined mail fetching intervals.

48. (original) The method as claimed in claim 19, wherein the canceling step includes the step of canceling the power-

saving mode of the dial-up communication unit at the mail fetching intervals so as to fetch electronic mail addressed to said device through the dial-up communication unit,

said method further comprising the steps of:

where no electronic mail has been fetched, prolonging the mail fetching intervals by a prescribed arithmetic operation, not canceling the power-saving mode of said device, and then setting the dial-up communication unit back into the power-saving mode when a stand-by state lasts longer than the predetermined period of time;

where electronic mail has been fetched, canceling the power-saving mode of said device, and outputting electronic mail information to said device through the dial-up communication unit; and

at a predetermined time, resetting the mail fetching intervals to the original predetermined mail fetching intervals.

49. (original) The method as claimed in claim 41, wherein the mail fetching intervals are stored in a semiconductor non-volatile memory.

50. (original) The method as claimed in claim 41, wherein the arithmetic operation is selected from a plurality of prescribed arithmetic operations by a user.

51. (original) The method as claimed in claim 43, wherein the mail fetching intervals are stored in a semiconductor non-volatile memory.

52. (original) The method as claimed in claim 43, wherein the

arithmetic operation is selected from a plurality of prescribed arithmetic operations by a user.

53. (original) The method as claimed in claim 45, wherein the mail fetching intervals are stored in a semiconductor no-volatile memory.

54. (original) The method as claimed in claim 45, wherein the arithmetic operation is selected from a plurality of prescribed arithmetic operations by a user.

55. (original) The method as claimed in claim 47, wherein the mail fetching intervals are stored in a semiconductor non-volatile memory.

56. (original) The method as claimed in claim 47, wherein the arithmetic operation is selected from a plurality of prescribed arithmetic operations by a user.

57. (original) The electronic mail terminal device as claimed in claim 1, wherein:

the communication unit is a local area network communication unit that is connected to a local area network and performs electronic mail data exchange via the local area network;

when a current time is within a predetermined nighttime zone, the power-saving control unit sets the local area network and said device into the power-saving mode; and

when the current time comes out of the predetermined nighttime

zone, the power-saving control unit cancels the power-saving mode of the local area network communication unit.

58. (original) The electronic mail terminal device as claimed in claim 57, further comprising

a nighttime power-saving mode setting unit that determines whether or not a power-saving mode can be set in the predetermined nighttime zone,

wherein:

when the current time is within the predetermined nighttime zone, the power-saving control unit sets said device into the power-saving mode;

when the nighttime power-saving mode setting unit allows the power-saving mode in the nighttime zone, the power-saving control unit sets the local area network communication unit into the power-saving mode; and

when the current time comes out of the nighttime zone, the power-saving control unit cancels the power-saving mode of the local area network communication unit.

59. (original) The electronic mail terminal device as claimed in claim 57, wherein

the power-saving control unit is provided with a timer for detecting an end of the nighttime zone, and, based on an output of the timer, cancels the power-saving mode of the local area network communication unit.

60. (original) The electronic mail terminal device as claimed

in claim 1, wherein:

the communication unit is a dial-up communication unit that makes a dial-up access to an Internet service provider via a public network and performs electronic mail data exchange via the Internet;

when a current time is within a predetermined nighttime zone, the power-saving control unit sets the dial-up communication unit and said device into the power-saving mode; and

when the current time comes out of the predetermined nighttime zone, the power-saving control unit cancels the power-saving mode of the dial-up communication unit.

61. (original) The electronic mail terminal device as claimed in claim 60, further comprising

A / a nighttime power-saving mode setting unit that determined whether or not a power-saving mode can be set in the predetermined nighttime zone,

wherein:

when the current time is within the predetermined nighttime zone, the power-saving control unit sets said device into the power-saving mode;

when the nighttime power-saving¹ mode setting unit allows the power-saving mode in the nighttime zone, the power-saving control unit sets the dial-up communication unit into the power-saving mode; and

when the current time comes out of the nighttime zone, the power-saving control unit cancels the power-saving mode of the dial-up communication unit.

62. (original) The electronic mail terminal device as claimed

in claim 60, wherein

the power-saving control unit is provided with a timer for detecting an end of the nighttime zone, and, based on an output of the timer, cancels the power-saving mode of the dial-up communication unit.

63. (original) The method as claimed in claim 12, wherein:

the power-saving mode setting step includes the step of setting said device and a local area network communication unit, which is connected to a local area network and performs electronic mail data exchange via the local area network, into the power-saving mode, when a current time is within a predetermined nighttime zone; and

the canceling step includes the step of canceling the power-saving mode of the local area network communication unit when the current time comes out of the predetermined nighttime zone.

64. (original) The method as claimed in claim 63, wherein:

the power-saving mode setting step includes the steps of:

when the current time is within the predetermined nighttime zone, setting said device into the power-saving mode; and

when a nighttime power-saving mode setting unit determines that a power-saving mode can be set in the nighttime zone, setting the local area network communication unit into the power-saving mode; and

the canceling step includes the step of,

when the current time comes out of the night time zone, canceling the power-saving mode of the local area network communication unit.

65. (original) The method as claimed in claim 63, wherein the canceling step includes the step of,

based on an output of a timer that detects an end of the nighttime zone, canceling the power-saving mode of the local area network communication unit.

66. (original) The method as claimed in claim 12, wherein:

the power-saving mode setting step includes the step of setting said device and a dial-up communication unit, which makes a dial-up access to an Internet service provider via a public network and performs electronic mail data exchange via the Internet, into the power-saving mode, when a current time is within a predetermined nighttime zone; and

the canceling step includes the step of canceling the power-saving mode of the dial-up communication unit when the current time comes out of the predetermined nighttime zone.

67. (original) The method as claimed in claim 66, wherein:

the power-saving mode setting step includes the steps of:

when the current time is within the predetermined nighttime zone, setting said device into the power-saving mode; and

when a nighttime power-saving mode setting unit determines that a power-saving mode can be set in the nighttime zone, setting the dial-up communication unit into the power-saving mode; and

the canceling step includes the step of,

when the current time comes out of the night time zone, canceling the power-saving mode of the dial-up communication unit.

68. (original) The method as claimed in claim 66, wherein the canceling step includes the step of,

based on an output of a timer that detects an end of the
nighttime zone, canceling the power-saving mode of the dial-up
communication unit.

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